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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,706	02/28/2002	Yuqun Zeng	12113/46002	7984

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EXAMINER
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PATEL, ISHWARBHAI B

ART UNIT	PAPER NUMBER
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2841

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/087,706	ZENG, YUQUN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ishwar (I. B.) Patel	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Pursuant to further review after receipt of the appeals brief filed on March 10, 2006, examiner has discovered that, while the arguments are not persuasive, there is great deal of confusion about the limitation "wherein said dissipative coating layer is applied onto all the connecting cables of ESD sensitive devices" of base claim 1. Therefore, PROSECUTION IS HEREBY REOPENED. Detailing a new ground of rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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3. Claims 1-4 and 6-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. While figure 2 shows the cross section of the wireless type of component and figure 3 shows top view of the component and but no relevant detail of the dissipative coating layer applied onto all connecting cable of ESD sensitive devices, as claimed in the base claim 1, is either described in the specification or shown in the figure. It is unclear for a person of ordinary skill in the art to understand the structure of the dissipative coating layer applied onto all connecting cables of ESD devices.

Claims 1-4 and 6-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. While figure 2 shows the cross section of the wireless type of component and figure 3 shows top view of the component and but no relevant detail of the dissipative coating layer applied onto all connecting cable of ESD sensitive devices, as claimed in the base claim 1, is either described in the specification or shown in the figure. It is unclear for a person of ordinary skill in the art the detail structure of the dissipative coating layer applied onto all connecting cables of ESD devices.

Therefore, for the examination purpose, the examiner assumes the connection of a cable as generally used in the art for connecting one component to other by using a cable.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4 and 6-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. While the applicant has claimed "wherein said the dissipative coating layer applied onto all connecting cable of ESD sensitive devices" no relevant detail is either described in the description or the figure. It is unclear for a person of ordinary skill in the art to understand the claimed connection structure with the dissipative coating layer. This makes the scope indefinite.

Therefore, for the examination purpose, the examiner assumes the connection of a cable as generally used in the art for connecting one component to other by using a cable.

### ***Drawings***

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the detail of dissipative coating layer applied onto all connecting cables of ESD sensitive devices, as claimed in

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the base claim 1, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami, Japanese Patent Publication No. 02-174289 in view of Annis (US Patent No. 5,436,803), Takami (US Patent No. 5,245,613), Anderson (US Patent No. 4,130,334) and Scott (US Patent No. 4,406,059).

**Regarding claim 1**, Kawakami et al., discloses an electrostatic discharge device (ESD) safe wireless type of component comprising: a base (1), an electrically conductive copper trace (2, see figure) provided on said base (1), and an insulating layer (4) coated on copper trace (2); wherein a dissipative coating layer (5) is applied on the top of said insulation layer (4).

Kawakami et al., does not disclose any cable connected to the board connecting other devices and dissipative coating layer applied onto all connecting cables of ESD sensitive devices.

Annis et al., in figure 1, discloses conductive wires (cables) connected to a circuit card of an electronic device.

Takami et al., in figure 3, discloses cable 17 connecting processing board (13) to motherboard (14).

Anderson, in figure 1, discloses electronic component connected using a cable and further recites that the cable having a shielding to avoid static discharge interrupting the transmitted signal (column 1, line 12-17).

Scott in figure 6, teaches extending a coating onto the connection site.

As disclosed by Annis, Takami, Anderson and Scott, use of cables for various input /output signal connection is known and also it is known to extend the coating on to the connection site.

A person of ordinary skill in the art would have recognized the advantage of providing antistatic coating to cable connection to have protection against static electricity during the manufacturing process / assembly or during the use of the device.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to provide connecting cables to the board of Kawakami for input / out put signals of various devices, as taught by Annis, Takami, Anderson and Scott and to coat those cable connections with the dissipative coating, in order to have the protection against static electricity generated during assembly or operation.

**Regarding claim 4**, the modified structure of Kawakami et al., further discloses exposed bonding pad area (3).

**Regarding claims 6 and 7**, the modified structure of Kawakami et al., discloses all the features of the claimed invention, but does not explicitly disclose the dissipative coating layer is applied via lamination, as claimed in claim 6 or the dissipative coating layer is applied via sputtering, as claimed in claim 7. However, how the dissipative layer is applied is a process limitation in a product claim. Such a process limitation defines the claimed invention over the prior art only to the degree that it defines the product itself. A process limitation cannot serve to patentably distinguish the product over the



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prior art, in the case that the product is same as, or obvious over, the prior art. See Product-by-Process in MPEP 2113 and 2173.05(p) and *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Therefore, the modified structure of Kawakami et al., meet the limitations of claim 6 and 7.

9. Claims 2, 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified structure of Kawakami as applied to claim 1 above, and further in view of Remington, US Patent No. 5,350,228.

**Regarding claim 2**, the modified structure of Kawakami discloses all the features of the claimed invention as applied to claim 1 above, but does not explicitly disclose the surface resistivity of said dissipative coating layer ranges about  $10^4$  –  $10^{11} \Omega / \square$ .

Remington, in figure 2, discloses an electrostatic discharge protective coating (electrostatic dissipative paint) with a thickness of 0.7 to 0.9 mils (column 4, line 65) and surface resistivity of about  $10^6$ - $10^{10}$  ohm, (column 4, line 30-40) to have protection against static electricity.

Further, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of design choice. *In re Leshin*, 125 USPQ.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to provide the dissipative coating of Kawakami et al.,

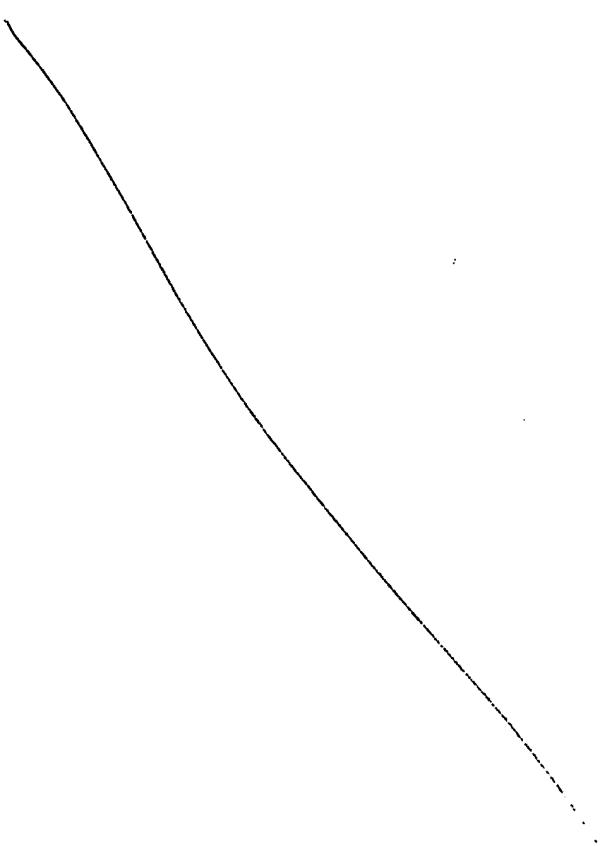
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with a surface resistivity ranges about  $10^4 - 10^{11} \Omega / \square$ , as taught by Remington, in order to have desired protection from the static electricity.

**Regarding claim 3**, the modified structure of Kawakami further discloses a thickness of dissipative coating in the range between 0.7 mils to 0.9 mils, as applied to claim 2 above, which is within the claimed range of 5-100  $\mu\text{m}$ .

**Regarding claim 8**, the modified structure of Kawakami further discloses the dissipative coating layer include a polymer (Remington, column 5, line 26-40).

10. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified structure of Kawakami as applied to claim 1 above, and further in view of Dodsworth, US Patent No. 6,459,943.



**Regarding claim 9**, the modified structure of Kawakami discloses all the features of the claimed invention, but does not disclose the said wireless type of components is configured to reduce a static charge from 1000 V to below 10 V.

Dodsworth, in figure 2, discloses a dissipating layer (150) for ESD protection of magnetoresistive (MR) head. Dodsworth, further recites that the tribocharge voltage can be minimized by connecting the dissipating layer (150) to a ground trace, which may reduced the voltage to even zero, (column 4, line 15-33).

A person of ordinary skill in the art at the time of applicant's invention would have configured the device to a desired safe voltage value.

Further, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to configure the modified structure of Kawakami to reduce a static charge from 1000 V to below 10 V, as taught by Dodsworth, in order to provide the desired electro static discharge protection to the device.

**Regarding claims 10-14**, the modified structure of Kawakami discloses all the features of the claimed invention, but does not disclose the ESD sensitive devices include a component of a disk drive, as claimed in claim 10, or a magnetic data storage, as claimed in claim 11, or a slider, as claimed in claim 12, or a pre-amp, as claimed in claim 13 or a micro-actuator, as claimed in claim 14. However, all the components as

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claimed are known in the art and it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to provide the known ESD protection device to protect those devices against electrostatic charge. As an example, Dodsworth discloses the ESD device to protect MR heads of a hard disk drive.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to construe the ESD device of the modified structure of Kawakami et al., to include a component of a disk drive, as claimed in claim 10, or a magnetic data storage, as claimed in claim 11, or a slider, as claimed in claim 12, or a pre-amp, as claimed in claim 13 or a micro-actuator, as claimed in claim 14, as taught by Dodsworth, in order to protect the devices from damage due to electro static charge.

11. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami, Japanese Patent Publication No. 02-174289 in view of Annis.

**Regarding claim 1**, Kawakami et al., discloses an electrostatic discharge device (ESD) safe wireless type of component comprising: a base (1), an electrically conductive copper trace (2, see figure) provided on said base (1), and an insulating layer (4) coated on copper trace (2); wherein a dissipative coating layer (5) is applied on the top of said insulation layer (4).

Kawakami does not disclose said dissipative coating layer applied onto all connecting cables of ESD sensitive devices. However, the structure of Kawakami is a circuit structure and can be used as a connecting cable. The structure of Kawakami is designed with a dissipative layer. Although the reference did not disclose plurality of

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such structure, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to provide plurality of such structure to have the desired connection. Also, it has been held that mere duplication of parts has no patentable significance unless a new and unexpected results is produced, *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shieber (US Patent No. 4,908,939), in figure 3, a connection structure covered with conductive encapsulant.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (571) 272 1933. The examiner can normally be reached on M-F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272 1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ibp  
August 31, 2006

  
ISHWAR PATEL  
PRIMARY EXAMINER